



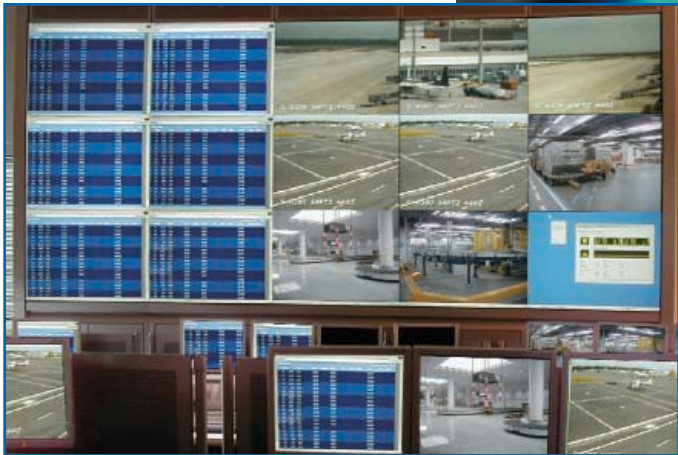
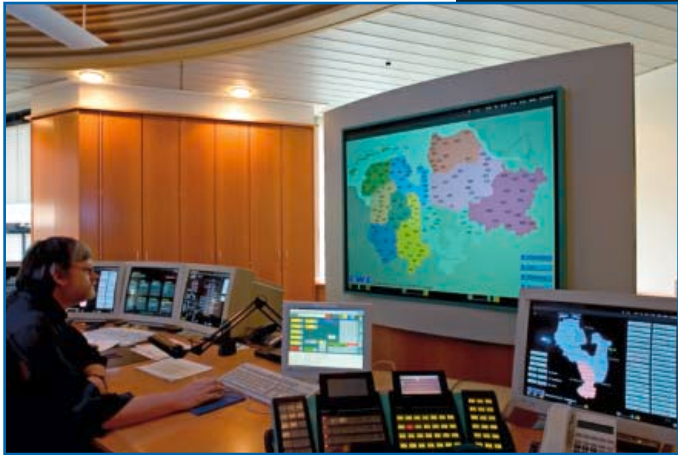
ME multiView

Large-Screen Rear Projection



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Power Generation, Monitoring and Power Distribution

Customer	Year	Project
California Independent Operator System (ISO) Folsom, CA USA	1997	1x4 x 120" SXGA, directly connected to an ABB "Spyder" energy management system. The ISO monitors and controls the entire transmission grid system for the state of California.
CILCO Peoria, IL USA	1998	2x7 52" SVGA, Windows NT based display wall controller. Display wall is used to monitor the high voltage electric energy and gas transmission SCADA management system. CILCO services over 200,000 customers.
Western Area Power Authority Rocky Mountain District (WAPA) Loveland, CO USA	1998	3x9 52" and 2x3 52" SVGA, Unix based display wall controller. WAPA provides monitoring and control of the high voltage transmission lines through out the Rocky Mountain States.
PacifiCorp Portland, OR USA	1998	2x4 52" SVGA, Unix based display wall controller. PacifiCorp provides high voltage transmission and distribution to the Northwestern United States.
MAPP Minneapolis, MN USA	1998	2 systems 2x2 52" SVGA, Windows NT based display wall controller. The MAPP Center is responsible for the security coordination of the high voltage transmission system in the West Central United States.
Escolsa Vitoria/SP Brazil	1999	2x3 50" XGA, 1 ME multiView-Split-PC inc. network remote access for Microsoft Windows and Unix/Linux systems plus network scripting
ABB Automation Toledo, OH USA	1999	1x84" SXGA, 1 SuperView split computer displaying ABB "DCS" process control diagrams for Pohang project in Korea.
GPU Energy Reading, PA USA	2000	2x3 52" XGA, Windows NT based display wall controller. GPU Energy provides generation, distribution and transmission of electricity to over 2 million customers in Pennsylvania and New Jersey.
City Of Idaho Falls Idaho Falls, ID USA	2000	1x84" SXGA, direct connection to Foxboro SCADA system. Integrated into Mauell mosaic tile board.
Franklin County, PUD Pasco, WA USA	2000	1x84" SXGA, MBC connection. The Public Utility District serves about 35,000 customers.

Power Generation, Monitoring and Power Distribution

Customer	Year	Project
Entergy Beaumont, TX USA transmission	2000	2x3 60" XGA, Windows NT based display wall controller displaying ESCA SCADA diagrams. This facility monitors the Texas region for high voltage lines and a region with about 1 Million customers.
VEV Hanoi Vietnam	2000	2x120" SXGA, Unix based display wall controller connected to the ABB "Ranger" SCADA system.
Jackson Utility District Jackson, TN USA	2001	2x3 40" SVGA, Windows NT based controller, 2x37" CCTV monitors. JUD utilizes the video display system along with 5 Mauell mosaic dynamic tile boards to monitor and control electric, water, natural gas and waste water for over 60,000 customers.
Duke Energy São Paulo Brazil	2001	2x2 50" XGA, 1 split computer with Windows host Duke Energy is a power generation and trading company. The video screen continuously supplies a group of brokers involved in energy trading with stock market information and Bloomberg graphs.
CTEEP Jundiai/SP Brazil	2001	2x3 67" XGA, 2 split computers with Windows hosts, Unix hosts and scripting function. CTEEP is responsible for the high-voltage supply in the state of São Paulo. This control room is designed for monitoring the power distribution in the state of São Paulo including all load condition and generation parameter monitoring.
CTEEP COT Bom Jardim Jundia/SP	2001	2x3 67" XGA, 2 ME multiView-Split-PC inc. network remote access for Microsoft Windows and Unix/Linux systems plus network scripting
Steag AG Essen Germany	2001	1x5 Supercube 50" XGA with PIP function connected to 12 operator consoles via a cross-bar distributor. Steag is a local power supply company. From this control room, all power stations of the Steag AG are monitored and their outputs controlled according to the load requirements. The Cubes are also used for system presentations.
swb Synor GmbH & Co. KG Hafen Power Station, Block 6 Bremen Germany	2001	1x3 50" XGA, directly connected to the ME-VIEW 3 process control and monitoring system of Helmut Mauell GmbH. swb Synor is a local power supply company. Block 6 is fired with hard coal, producing an electric output of 300 MW and supplying a district heating system. The Cubes are used for the monitoring and control of sub-systems and the display of measured value characteristics over time.

Power Generation, Monitoring and Power Distribution

Customer	Year	Project
Nashville Electric Services Nashville, TN USA	2001	2x4 84" SXGA, dual Windows NT display wall controllers, and integrated A/V system with Crestron touch control LCD screens. NES provides electricity to over 300,000 customers.
Great River Energy Elk River, MN USA	2001	2x9 50" and 2x2 50" XGA, Unix based display wall controllers. GRE is a Touchstone Energy Partner generating and providing electricity to over 50,000 customers.
Blue Ridge EMC Lenoir, NC USA that	2001	2x3 50" XGA, Windows NT based display wall controller, 2x3 20" CCTV monitors. Blue Ridge Electric is a Touchstone Energy Partner Cooperative that provides electricity to over 50,000 customers in North Carolina.
Tennessee Valley Authority Chattanooga, TN USA	2001	2x2 40" SVGA, Unix based display wall controller connected to the Telegyr energy management system. TVA is the largest government utility in the United States.
American Transmission Company Pewaukee, WI USA	2001	2 systems each comprised of a 2x3 40" SVGA, Windows NT based display wall controllers displaying ESCA Energy Management System diagrams. ATC is a region transmission center for the West Central States.
ONS Brasilia Brazil	2002	2x6 67" XGA, 1 split computer with Windows hosts, Unix hosts and scripting function. ONS is a private organization which coordinates the generation, transmission and distribution of power nation-wide.
Neurath Power Plant RWE Grevenbroich	2002	1x5 70" SXGA, including automatic lamp changer. Direct analog RGBHV hardware connection to the ABB control system Pro Contol P. Visualization of technological and control processes of the coal-fired power plant on the main control room's large-screen rear projection of Germany. Display of video images transmitted from the cameras of a digital security system.

Power Generation, Monitoring and Power Distribution

Customer	Year	Project
Cullman Electric Cooperative Cullman, AL USA Alabama.	2002	2x2 50" XGA, Windows NT display wall controller connected to a GIS based outage management system, surrounded by a 2x2 27" CCTV monitors system. Cullman Electric provides electricity to customers in rural
Midwest Independent System Operator ISO Carmel, IN the USA	2002	2x10 90" SXGA, Windows 2000 based display wall controllers connected to the ESCA energy management system. MISO is the monitors the integrity of the electric grid through out Midwestern United States.
Iowa Lakes Electric Cooperative Iowa Lakes, IA USA	2002	2x2 50" XGA, Windows NT display wall controller connected to a GIS based outage management system, surrounded by a 1x2 27" CCTV monitors system. Iowa Lakes Electric provides electricity to customers in rural Iowa.
Austin Energy Austin, TX USA	2002	3x3 60" XGA, Windows NT based display wall controller connected to the ABB NM "Ranger" energy management system. AEN provides electricity to the City of Austin, Texas state capitol.
NPP Tianwan Siemens Erlangen Germany	2002/ 2003	1x6 94" SXGA, direct analog RGBHV hardware connection. Visualization of the control processes of the NPP Tianwan in China (generating unit operation, simulator for personnel training) based on the Siemens control system Teleperm TXP and the TXS security system.
Netcontrol Room UAE	2003	3x6 50" XGA, Monitoring of the grid operation for the customer LDC Oman. Network-based Microsoft Windows 2000 Split PC with X-server technology using the ABB control system for Spider for process visualization. So-called RGB capture modules allow the connection of signals from CCTV and MATV systems and transmission of system data graphics from workstations. Remote keyboard / cursor is implemented for all network clients.
Main control room Incinerating plant AVN Dürnrrohr Austria	2003	2x3 70" SXGA, Microsoft Windows 2000 Split computer operating as workstation in a server / client network. Monitoring and control of the technological processes of the AVN Dürnrrohr incinerating plant. Representation of 64 camera images from the plant sections and video images from various media devices.

Power Generation, Monitoring and Power Distribution

Customer	Year	Project
Mosenergo Moscow Russia	2003	2x2 67" XGA with Split computer technology. Visualization and monitoring of a power distribution network.
Mosenergo Moscow Russia	2003	3x4 67" XGA with redundant Split computer technology in a server/client network. Monitoring and control of the power distribution for the Moscow area based on a complex representation of the electricity supply system.
Control room ÜWAG Fulda Germany	2004	2x3 50" XGA, 1 ME multiView Split controller, network-based Microsoft Windows and Unix/Linux technology with network scripting function, implemented in a grid control center.
HKW Süd STW Munich Germany	2004	5x2x2 50" XGA, 1 ME multiView Split controller, network-based Microsoft Windows and Unix/Linux technology with network scripting function, implemented in a district heating power station.
Rowinari Power Plant Emerson Prague Czech Republic	2004	1x2 50" SXGA for the representation of process diagrams from the plant.
Load control center e on Gelsenkirchen Germany	2004	3x5 50" XGA, network-based Linux Suse Master/Slave. Network with standby technology for X-server system in combination with the deneg control system. The large-screen rear projection array of the RuhrEnergie load control center in the town of Gelsenkirchen is used for monitoring the distribution of electric power and district heating, including load condition and generation monitoring.
NPP Leibstadt Switzerland	2004	4x1 70" SXGA for the representation of process diagrams from the control system.
GuD Linz Linz AG Austria	2004	2x3 50" XGA, integration of the PLC system by means of hardware grabber inputs.
Research control center HMI Berlin Germany	2004	70" SXGA, the Cube is used in the research reactor.
NLS Rauschermühle RWE Plaidt Germany	2004	2x3 50" XGA with network connection to a PSI power network control system.

Power Generation, Monitoring and Power Distribution

Customer	Year	Project
NL Niederzier RWE Germany	2004	2x3 50" XGA, with network connection to a PSI power network control system.
Incinerating plant AWG Wuppertal Germany	2005	1x4 50" XGA, Mauell SCADA visualization based on ME-VIEW III Client (process control system).
Control room STW Dinkelsbühl Germany	2005	2x3 50" XGA, integration of a Win CC client for the monitoring and control of the district heating, power and gas network .
Water control center Niederrath Hessenwasser Germany	2005	1x2 70" SXGA, integration of an existing Win CC control system.
NST Niederrhein RWE Germany	2005	2 Walls à 2x3 50" XGA, with network communication of PSI network control system
KW Frimmersdorf RWE Germany	2006	3x7 50"XGA including redundant Split controllers, Mauell Operator Control and Process Monitoring System ME-VIEW III and the intelligent „multimouse-function", also media sources (S- / C-Video, RGB- / DVI-Capture) for presentation
Kraftwerk Hafen, Block 6 swb Synor Bremen Germany	2006	1x5 50" XGA, extension of the plant installed in 2001 with 1x4 50" Cubes
Leitstelle Mark-E Deutschland	2006	2x3 50" SXGA inclusive double lamp system, cross-bar connection to 4 operator terminals of the process information system (Prins) at BTC AG including system management matrix

Power Marketing

Customer	Year	Project
Exelon Power Team Kennett Square USA	2000	3x4 67" SXGA, Windows NT based display wall controller. Structure provides a motorized tilt to move the display 7° from the vertical position. Power Team is one of the largest utility financial trading and market floor operation in North America.

Telecommunications

Customer	Year	Project
Pegasus Sao Paulo/SP Brazil	2001	3x3 67" XGA, 1 split computer with Windows hosts, Unix hosts and scripting function. Pegasus operates a fiber optics network (overall size: 6 000 km) in the south and southwest of Brazil. This control room is designed for monitoring the supraregional, regional and local (last mile) network links.
Telemar Rio de Janeiro/RJ Brazil	2002	2x4 50" XGA, 1 split computer with Windows hosts, Unix hosts and scripting function. Telemar is one of Brazil's major dedicated network operators. This network operation center is designed for monitoring the links of major customers.
Brazil Telecom Brasilia/DF Brazil	2003	2x4 50" XGA, 1 ME multiView Split computer inc. network remote access for Microsoft Windows and Unix/Linux systems plus network scripting function.
SMC T-Mobile Bonn Germany	2003	4x9 67" XGA, 1 ME multiView Split controller, network-based Microsoft Windows and Unix/Linux technology with network scripting function, implemented in a service management center.
Boardroom T-Mobile Bonn Germany	2003	2x5 50" XGA, 1 ME multiView Split controller, network-based Microsoft Windows and Unix/Linux technology with network scripting function, implemented in a board meeting room.
Gedas - NOC Soa Bernardo do Campo/SP Brazil	2003	2x3 50" XGA, 1 ME multiView Split computer inc. network remote access for Microsoft Windows and Unix/Linux systems plus network scripting function.
LIWEST Linz Austria	2005	1x5 67" XGA, presentation up to 16 RGBHV sources

Industry

Customer	Year	Project
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Aracruz Celulose Aracruz/ES Brazil where	2001	3 panels comprising 2x3 50" S-VGA, 3 VC multiplexers and sequencers. Aracruz Celulose is a major paper goods manufacturer. The video panels are installed in industrial monitoring rooms where some Windows stations and video data are displayed.
CSN Volta Redonda/RJ Brazil	2001	1 x 67" XGA CSN is a major steel mill. The Cube is installed in an industrial monitoring room where some Windows stations and video data are displayed.
Control room Henkel Düsseldorf Germany	2002	1x70" SXGA, incl. automatic lamp changer. Direct analog RGBHV hardware connection for the visualization of optimization results and higher-level information of the overall control system. The Cube is also used for the representation of video images.
Plant control room BASF AG Ludwigshafen Germany	2003	1x100" SXGA Direct analog RGBHV hardware connection to the ABB / H&B control system Synponie of the BASF Corporation in the town of Ludwigshafen. This large screen unit monitors a plant section of the production area.
Dillinger Hütte ROGESA Dillingen Germany	2003	1x70" SXGA, inc. automatic lamp changer. Direct analog RGBHV hardware connection to the large-screen rear projection system to monitor the technological processes in the control room of the sintering plant.
Incinerator control room AVR Rozenburg Netherlands	2004	1x3 70" SXGA, monitoring and control of the incinerating plant with combined representation of the Win CC control system and real time camera images.
Control Rooms Deeside Scotland	2005	1x1 50" SXGA, stand-alone unit for the representation of process diagrams (monitor equivalent).

Industry

Customer

Year

Project

Main control room
Incinerator
AVR
Duiven
Netherlands

2005

1x4 70" SXGA, monitoring and control of the incinerating plant with combined representation of the Win CC control system and real time camera images.

Power Plant
Aberthaw
Wales

2005

1x3 70" with double lamp system, monitoring the control system

MVA-Zentralwarte
2005,
AVR
Duiven
Netherlands

2005

2x5 70" SXGA, 70" SXGA-Cube extension of a wall installed in monitoring and control of the incinerating plant

MVA-Zentrale
AVR
Rozenburg
Netherlands

2006

3x5 70" SXGA, 2x70" SXGA-Cube extension of a wall installed in 2004, monitoring and control of the incinerating plant

Oil and Gas

Customer	Year	Project
Petrobras Rio de Janeiro Brazil	2001	2x4 50" XGA, 1 split computer with Windows hosts and scripting function; complete AV system. Petrobras is Brazil's state-owned oil company (monopoly). The company's activities lie in the fields of oil and gas production, refineries and distribution. This multimedia control room is used by the company's board of directors and chairman for representation purposes. Mauell's scope of delivery also included programmable telecontrol systems which allow video conferences, presentations, crisis management and pre-scheduled board meetings to be performed automatically simply by pressing a bushbutton.
Control room EWE Oldenburg Germany	2002	1x2 70" SXGA, inc. automatic lamp changer. Direct analog RGBHV hardware connection to the STS process information system Prins 5.0. In the network control center, the individual large-screen units are used to provide an overall view of the supply grid and to monitor and control the power and gas distribution in the EWE supply area.
Bulgargaz Sofia Bulgarien	2005	2x3 50" XGA inc. automatic lamp changer, monitoring of the gas distribution net with WinCC

Water

Customer	Year	Project
KLA Schwetzingen STW Schwetzingen Germany	2002	2x3 50" XGA, 1 Split computer with Windows hosts and scripting function connected to the company's operator control and monitoring system via a network. The entire sewage plant can be controlled and monitored by means of mimic diagrams displayed on the large-screen projection unit.
Styrum control room RWW Mülheim Germany	2003	2x2 50" XGA, network-based Microsoft Windows 2000 Split computer technology with remote software modules for the representation of various pixel graphics. Monitoring and control of all waterworks, booster and tank systems of the RWW network in the main control room of the Ruhrwasserwerk Mülheim-Styrum. Visualization of process diagrams, TV and camera monitoring images and DVD sequences.

Traffic Centers

Customer

Year

Project

<p>City of Hoover Hoover, AL vehicular USA</p>	1999	<p>1x72" SXGA, 1 matrix switch, 4x20" monitors. The City of Hoover is an ITS center and displays the flow of traffic and a advanced traffic management information system.</p>
<p>City of Richardson Richardson, TX USA surveillance</p>	2000	<p>2x2 40" SVGA, 3x2 27" monitors, connected directly to the ATMS computer. The traffic center monitors the traffic light system, video cameras and apprises police and safety personnel of accidents.</p>
<p>County of Sacramento Sacramento, CA USA</p>	2002	<p>2x3 52" XGA, 2x3 27" CCTV monitors, Windows NT based display wall controller, connected to the ATMS computer. The traffic center monitors the freeway system, video surveillance cameras and apprises police and safety personnel of trouble and accidents.</p>
<p>Terminal II Munich airport Germany</p>	2003	<p>3x5 50" XGA, network-based Microsoft Windows 2000 Split computer technology (remote software modules, X-servers, browser, remote keyboard/cursor, Frame grabber) inc. video and data processing technology, with emergency standby system. This large-screen rear projection array is used to provide five workplaces with a quick overview of the various data from disposition and display systems for the ground traffic service. This information overview comprises general disposition data, flight data, images of television monitoring systems, TV images, images of DVD and video recorder sequences.</p>
<p>Traffic management center City of Bremen Germany</p>	2004	<p>2x3 50" XGA, integration of the Siemens traffic management system using ME multiView Split computer technology and additional representation of 12 camera signals.</p>
<p>NL Sternschanze DB AG Hamburg Germany</p>	2004	<p>2x6 50" XGA, 1 ME multiView Split computer with network access of MS systems.</p>

Traffic Centers

Customer	Year	Project
Traffic information center City of Düsseldorf Germany	2004	3x3 50" XGA, 1 ME multiView Split computer for the monitoring and operating of the traffic management system.
VSM Leipzig GEVAS Germany	2006	2x3 50" XGA, ein ME multiView Split controller for the monitoring and operating of the traffic management system.

Presentation and Conference Rooms

Customer	Year	Project
Briefing Center T-Systems Frankfurt a. M. Germany	2003	2x1x3 70" SXGA, 1 ME multiView Split computer, network-based Microsoft Windows and Unix / Linux technology with network scripting function.
Technik Center T-Mobile Bonn Germany	2004	2x2 50" XGA, 1 ME multiView Split controller, network-based Microsoft Windows and Unix / Linux-technology with network scripting function (Linux clustering) based on VNC technology.
Fireside room Q-bus Berlin Germany	2004	1x3 67" XGA, used for a multimedia presentation wall.
Presentation room STS (BTC) Berlin Germany	2004	50" XGA for the control system presentation of the STS company (now BTC)
Presentation room STW Düsseldorf Germany	2005	70" SXGA for presentation of different sources

Representatives

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